UNITED STATES
POSTAL SERVICE

MTAC
Mail Prep & Entry Focus Group
Anaheim

May 20,2015

Agenda

- Service Hub Update
- Bundle Breakage Update
- Work Group Update
- SPSS Machine Update
- Engineering Update

Service Hub Update

Accomplishments

- Phase I Complete
  - 46 Active Hubs became effective on April 1st
  - Includes 4 pilot sites activated in January
- Phase II Sites Selected
  - Approximately 166 additional sites will become live on July 1st
- Work Group 159 Officially Sunset
  - Recommendations made
  - Resolution Statement completed and posted in MITS

Recommendations

- USPS to review remaining former SCFs for eligibility to become a Service Hub
- Identify additional Service Hubs for July update cycle
- Add eligibility for DSCF discount and preparation requirements to DMM
- Create standard labeling list for Service Hubs
  - This item transferred to User Group 9 – Presort Reference Data

Service Hub Documentation

- Service Hub Guidelines
  - Posted on RIBBS under Important Updates:

    https://ribbs.usps.gov/index.cfm?
- Phase I Service Hub Facilities List
  - Posted on RIBBS under Important Updates:

    https://ribbs.usps.gov/index.cfm?
  - Posted in FAST under Drop Ship Product File Download

    https://fast.usps.gov/fast/fastApp/resources/dropShipFileDownload.action

Bundle Breakage Update

Bundle Breakage

- #1 cause of machine stoppage on the APPS/APBS is due to single pieces loose in the machine

- Each flat in a bundle that breaks costs 12.6¢ to manually gather, face, containerize, transport and process to restore a carrier route sortation

Initially estimated in excess of $9M monthly

Bundle Breakage

- ***Bundle Breakage/ Nesting Errors Trend***

National Totals	Bundles Scanned on APPS/APBS	Bundles w/ Multiple Piece Scans	% Bundles Broken or Nesting Errors	Standard Mail	Periodicals
Jan 1-16*	21,005,751	4,447,935	21.2%	21.9%	20.1%
May 20-Jun20	37,003,552	3,146,827	8.5%	11.4%	3.7%
July	35,009,112	2,927,357	8.4%	8.2%	3.4%
August	40,313,730	3,470,291	8.6%	10.5%	4.1%
September	41,880,938	3,140,316	7.5%	9.2%	3.7%
October	56,155,874	3,316,881	5.9%	6.9%	3.5%
November**	53,703,623	957,727	1.8%	1.8%	1.8%
December**	33,897,719	756,359	2.2%	2.7%	1.4%
January 2015**	38,712,170	929,191	2.4%	2.8%	1.5%
February 2015**	40,143,395	807,990	2.0%	2.2%	1.6%
March 2015**	43,552,233	1,136,189	2.6%	3.1%	1.5%

*January data prior to SEM installation on APPS and prior to FSS prep requirements
** November to March utilized **3**-or-more scans per bundle to eliminate nesting errors

Bundle Breakage

- ***Bundle Breakage/ Nesting Errors Trend***

- **Actual nesting errors have been reduced**

- **Nesting errors virtually eliminated from report (new parameter for report - 3 or more scans from one bundle per eDoc)**

- **Since November actual breakage has been increasing**

Bundle Breakage

- ***Categories with most significant breakage***

  - **Bundles secured with <u>string</u> experience catastrophic breakage on automation**

  - **Bundles secured with <u>rubber bands</u> experience double-digit breakage**

  - **<u>Co-mail</u> represented just 22% of bundles**
    - **Yet represented 47% of bundles with defects**
    - **For every bundle that actually broke, 3 <u>additional</u> bundles were diverted from automation and reworked**

Bundle Breakage

- ***Cost of bundle breakage***

  - **Actual bundle breakage increasing**
    - **Now estimated at $2 million monthly**

    - **Costs for rework not estimated, but represents three times the volume of bundles that actually break**
      - **Requires re-strapping or**
      - **Process on flats automation to restore presort order**

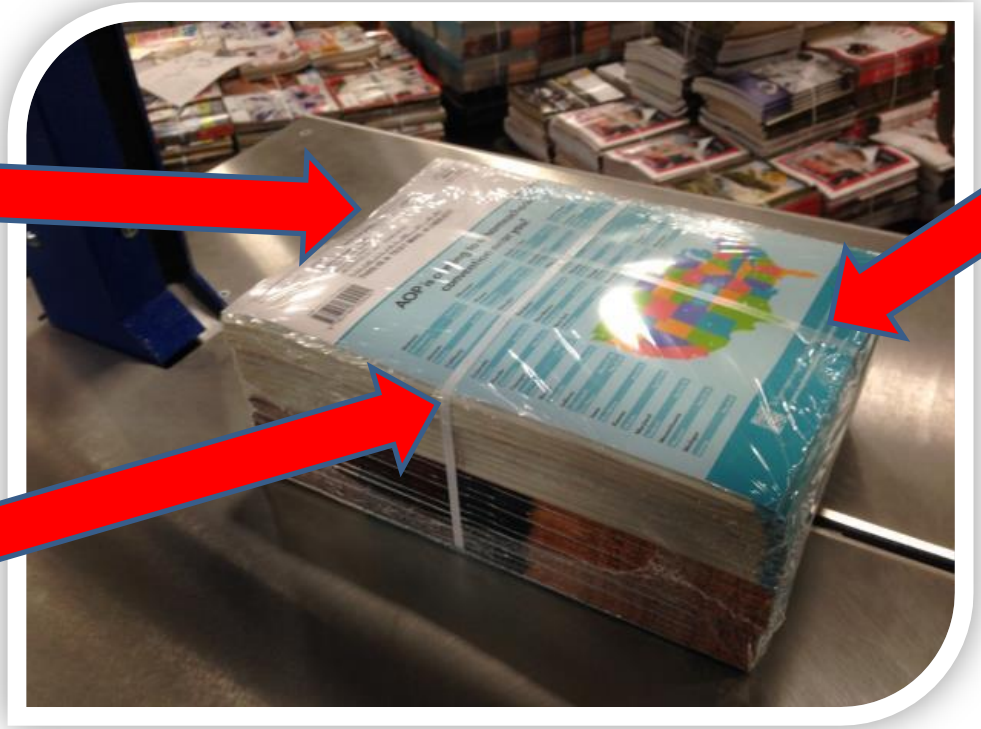
Bundle Breakage

- ***Steps to reduce breakage***
  - **Modified APPS/APBS bundle process**
    - **Bundle removal device modified**
    - **Exposed bolts in universal dumper modified**
  - **Created bundles utilizing industry standard equipment**
  - **Conducted controlled testing on different bundle packaging**

Bundle Breakage

- ***New "Perfect" Bundle***

Bundle Packing Construction



Bundle integrity is crucial to protecting the presort preparation. If bundles break open in transit or processing, pieces may be damaged and will require individual piece sortation, which would reduce processing efficiency and might delay visibility and receipt of the mail. REF: **DMM Revision: Centralization of Bundling Standards**

Small Package Sorting System

Background

- Package volumes expected to continue growing at a rapid pace
  - Significant growth in volume in the network will put tremendous strain on existing infrastructure
- Need to prepare now for current and future network needs
  - Leverage availability of additional commercial off-the-shelf (COTS) mail processing equipment (MPE) currently in deployment

Progress to Date

- Purchased five (5) SPSS sorters for packages weighing 20 pounds or less to evaluate sorter usage in different processing environments
- Primarily a pilot test and evaluation effort to assess potential future use in supporting growing package volume needs
- Enhanced requirements are being developed and they will be included in the purchase of 26 additional SPSS machines

5 Pilot Test Sites

Sorter #	Facility	Config	# Bins	# Inducts	# Platforms	Site Installation Starts	Operation Usage/ Handover
1	Phoenix West Valley P&DC	Closed Loop	196	5	1	09/12/2014	11/18/2014
2	Los Angeles ISC	Closed Loop	144	4	1	10/19/2014	02/06/2015
3	North Houston P&DC	Closed Loop	188	5	1	11/18/2014	02/20/2015
4	Queens P&DC	Closed Loop	196	5	1	01/12/2015	03/20/2015
5	Royal Palms P&DC	Closed Loop	188	5	1	02/09/2015	04/03/2015

Additional Machines

- Acquire 26 additional SPSS machines for deployment beginning summer 2015
- Support key locations where significant package volume is being sorted manually due to capacity shortfalls
- Added capacity will generate opportunity to move package volumes from manual operations onto automation

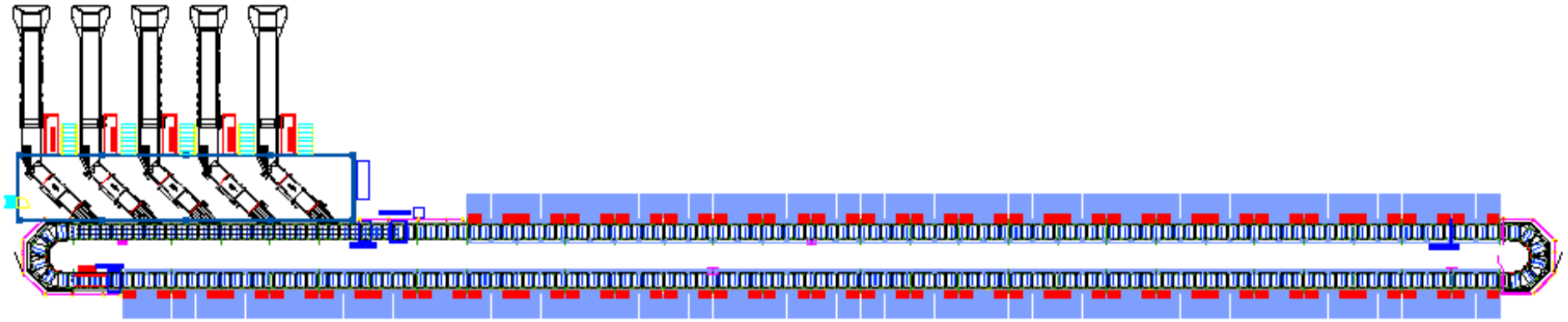
Enhancements

- Increased carrier cell size to handle larger packages
  - 5 SPSS handles 15" x 11" x 10" and 20 lbs.
  - 26 SPSS handles 22" x 16" x 10" and 20 lbs.
- OCR / VCS Support - Upgrade from initial barcode only reading
  - OCR - April 2015
  - VCS – May 2015

SPSS Configuration

Standard Configuration:

- 5 inductions/1 platform
- 196 discharge chutes to wiretainers, pallet boxes or spinner sack racks
- Operator singulates, faces and slides package to induction belt
- System collects weight & dimensions of every package
- Postal Furnished Top-read camera determines barcode
  - Top-Read OCR upgrade April 2015, and VCS May 2015
- Fixed Mechanization Process Control System (FMPCS)



SPSS sorter spine

SPSS sweep side view

SPSS dumpers and incline belts

Next Steps

- Official notification to all stakeholders
- Site visit with Unions
- Finalize deployment schedule

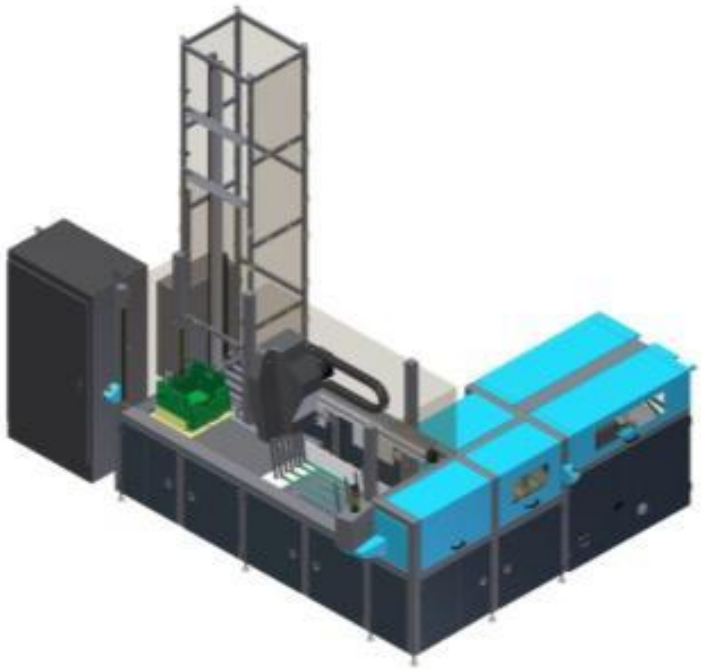
Engineering Technology Update

- ***Engineering Topics***
  - High Speed Flats Feeder (HSFF)
  - SAMP Sorter R&D

High Speed Flats Feeder

HSFF FY15 Plan Forward

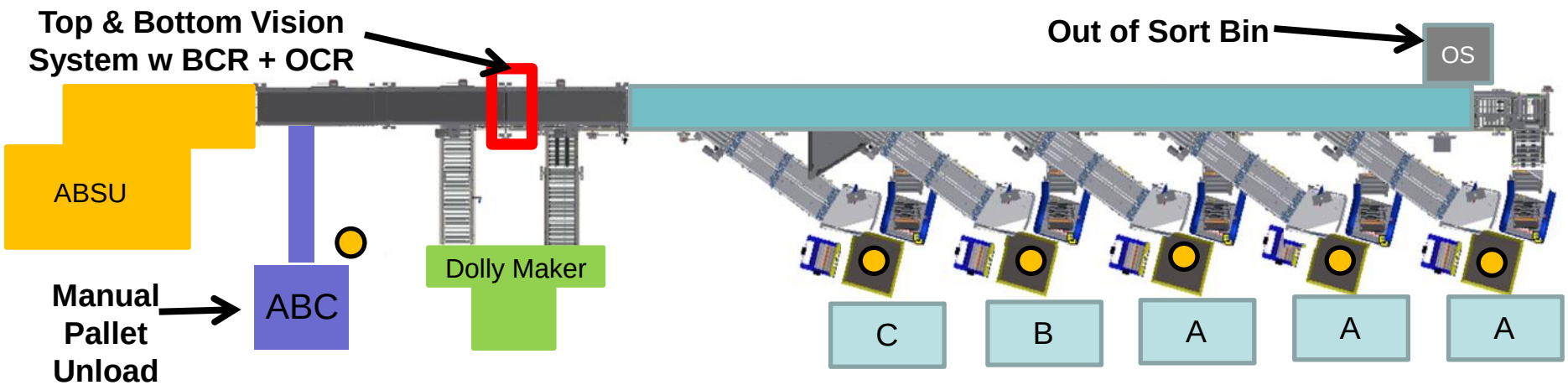
- Continue processing “live” mail
  - Dulles and Philadelphia P&DC”s
  - Reduced on-site Engineering Support to one Tour
  - Provided HSFF maintenance training
- Production Support
  - HSFF TDP
  - HSFF Installation and Assembly Manual’s
    - Support “build to print” contract
  - Royal Palm P&DC effort
    - 3 FSS systems upgraded – Summer 2015
    - Contract Award complete
    - In process of manufacturing HSFF’s
    - Data collection – Business Case
- Production Forward Plan (Decision Timeline)
  - TBD



SAMP Sorter

R&D Effort Status

- Phase 1: "Sort to Prep" SAMP Sorter *(complete)*
  - "Out of Sort" bundles only
  - Add top & bottom vision system w BCR & OCR and add Out of Sort "bin"
  - Provided a demo of prototype system in Linthicum; system is currently in Philadelphia PA P&DC
- Phase 2: "Sort to Prep" SAMP Sorter *(90% complete)*
  - Add "bundle sort" capability & sort bundles to prep stations
  - Manual Pallet Unload solution (avoid bundle overlap and on edge)
    - Not desirable – need Pallet Unloader solution at ABSU
  - Allow for multi-scheme pallets (3 schemes on same pallet)
  - Demo scheduled for early June with MTAC



R&D Effort Schedule

- Phase 2 - 90% complete
  - Demo scheduled for early June with MTAC at Philadelphia PA P&DC

- Challenges
  - Bundle overlap and bundle on edge from dumping (decreases read rate)
    - Current solution: Manual Pallet Unload
    - Not desirable – need Pallet Unloader solution at ABSU or add culler operator (requires major mod to SAMP to conform to safety and ergonomics requirements)
  - Bundle packaging greatly affects read rate

Questions